

(use as many sheets as necessary)

| | Attorney Docket Number | 40705/DMC/V165 | |
|--------------------|------------------------|------------------|--|
| Application Number | | 10/044,413 | |
| | Filing Date | October 24, 2001 | |
| | Applicant(s) | Tim Coe | |
| | Group Art Unit | Unknown-2135 | |
| | Examiner Name | To Be Assigned | |

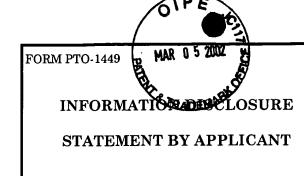
| U.S. PATENT DOCUMENTS | | | | | | |
|-----------------------|-----------|---------------|-------------|-------|----------|-------------------------------|
| | | ISSUE DATE | PATENTEE | CLASS | SUBCLASS | FILING DATE IF APPROPRIATE |
| 88 | 4,295,218 | 10/1981 | Tanner | 371 | 40 | |
| SKS | 4,547,882 | 10/1985 | Tanner | 371 | 38 | |
| SIS | 5,446,747 | 08/1995 | Berrou | 371 | 45 | |
| SHB | 5,930,272 | 07/1999 | Thesling | 371 | 37.01 | |
| SHB | 6,073,250 | 06/2000 | Luby et al. | 714 | 6 | |
| SKS | 6,081,909 | 06/2000 | Luby et al. | 714 | 701 | |
| SHS | 6,081,918 | 06/2000 | Spielman | 714 | 746 | |
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| FOREIGN PATENT DOCUMENTS | | | | | | | |
|--------------------------|--------------------|------------------|--------------------------|-------|-------------|-----|----|
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| EXAMINER INITIALS | DOCUMENT NUMBER | PUBLICATION DATE | COUNTRY OR PATENT OFFICE | CLASS | SUBCLASS | YES | NO |
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| | OTHER DOCUMENTS | | | | | |
|--|--|--|--|--|--|--|
| EXAMINER INITIALS | Include name of the author (in CAPITAL LETTERS), title of the article, title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. | | | | | |
| Bazzi, et al., "Exact Thresholds and Optimal Codes for the Binary Symmetric Changes Gallager's Decoding Algorithm A", Bell Labs, Lucent Technologies, Murray Hill NJ, 22, 1999 (pp. 1-20). | | | | | | |
| SHL | Chung, "On the Construction of Some Capacity-Approaching Coding Schemes", Massachusetts Institute of Technology, September 2000, (pp. 1-241). | | | | | |
| SHE | Felstrom, et al., "Time-Varying Periodic Convolutional Codes With Low-Density Parity-Check Matrix", IEEE Transactions on Information Theory, Vol. 45, No. 6, September 1999 (pp. 2181-2191) | | | | | |

| EXAMINER SIGNATURE | Strattik | DATE CONSIDERED | 8/19/04 |
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| EXAMINER: I | nitial if reference considered, whether or not citation | is in conformance with MPEP 60 | 9. Draw line through citation if not in |

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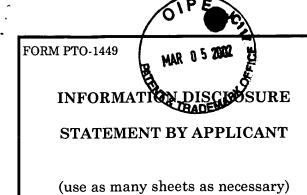


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| OTHER DOCUMENTS | | | | |
|---|---|--|--|--|
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| SHB | Davey, "Error-correction using Low-Density Parity-Check Codes", Cavendish Laboratory, University of Cambridge, December 1999 (pp i-vi and 1-107). | | | |
| SHB | Gallagher, "Low-Density Parity-Check Codes*", IRE Transactions On Information Theory, January 1962, (pp. 21-28). | | | |
| SHB | Gallagher, "Low-Density Parity-Check Codes" M.I.T. Press, 1963 (pp. 1-102) | | | |
| Sho | Kschischang, et al., "Factor Graphs and the Sum-Product Algorithm", IEEE Transactions on Information Theory, October 19, 2000 (pp. i, ii, 1-50) | | | |
| SHES | Luby, et al., "Improved Low-Density Parity-Check Codes Using Irregular Graphs and Belief Propagation", Digital Systems Research Center, 1998-009, April 15, 1998 (pp. 1-8) | | | |
| 20 | Lustenberger, et al., "An Analog VLSI Decoding Technique for Digital Codes*", IEEE, 0-7803-5474-5/99, 1999 (pp. II-428-431) | | | |
| 90 | MacKay, "Good Error-Correcting Codes based on Very Sparse Matrices", IEEE Transactions on Information Theory, January 1999 (pp. 1-55) | | | |
| SIS | MacKay, "Near Shannon Limit Performance of Low Density Parity Check Codes", Electronics Letters July 12, 1996 (pp. 1-4) | | | |
| Sis | MacKay, "Turbo Codes are Low Density Parity Check Codes", Abstract First Draft July 8, 1998, (5 pgs) | | | |
| 35 | McEliece, "Achieving the Shannon Limit: A Progress Report", Thirty-Eighth Allerton Conference, October 5, 2000 (62 pgs) | | | |
| SHS | Mitzenmacher, "A Note on Low Density Parity Check Codes for Erasures and Errors", SRC Technical Note, December 11, 1998 (pp. 1-10) | | | |
| SES | Pfister, et al., "Low Density Parity Check Codes: Decoding Analysis", STAR Group, UCSD, {hpfister, psiegel}@ucsd.edu, January 25, 2000 (pp. 1-14) | | | |
| 340 | T. Richardson and R. Urbanke, "An Introduction to the Analysis of Interative Coding Systems", In B. Marcus and J. Rosenthal, editors, Codes, Systems and Graphical Models, IMA Vol. 123, pages 1-37, Springer-Verlag, 2000. | | | |
| 90 | Richardson, et al., "Design of Provably Good Low-Density Parity Check Codes", Bell Labs, Lucent Technologies, Murray Hill, NJ, April 6, 1999 (pp. 1-35) | | | |

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| SHB | Richardson, et al., "Efficient Encoding of Low-Density Parity-Check Codes", Bell Labs, Lucent Technologies, Murray Hill, NJ, February 7, 2000 (pp. 1-50) | | | | |
| SHS | Richardson, et al., "The Capacity of Low-Density Parity Check Codes under Message-Passing Decoding", Bell Labs, Lucent Technologies, Murray Hill, NJ, November 11, 1998 (pp. 1-42) | | | | |
| SHO | J. Rosenthal, "An Algebraic Decoding Algorithm for Convolutional Codes", In G. Picci and D.S. Gilliam, editors, Dynamical Systems, Control, Coding, Computer Vision: New Trands, Interfaces, and Interplay, pages 343-360. Birkäuser, Boston-Basel-Berln, 1999. | | | | |
| SHB | Ross, et al., "Implementing & Using Low Density Parity Check Codes - A Portable Toolkit", http://www.people.fas,harvard,edu/-rross/cs222/paper.html, January 17, 2000, (10 pgs) | | | | |
| SHO | Wiberg, "Codes and Decoding on General Graphs", Department of Electrical Engineering, Linköping University, L.J. Foto & Montage, Linköping 1996 (pp. v, vii, ix, 1 - 94) | | | | |
| Sto | Worthen, et al., "Low-Density Parity Check Codes for Fading Channels with Memory", Proceedings of the 36 th Annual Allerton Conference on Communication, Control, and Computing, 1998, (pp.1-9) | | | | |

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| | EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. | | | | | |

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